

R E M A R K S

This Amendment is responsive to the Office Action dated June 4, 2004.

Claims 1-9 are pending in the application. All of the claims are initially considered by the Examiner to be product by process claims as they recite that the transition section is spin formed.

Of the claims, claims 1-3 and 5-9 stand rejected under 35 U.S.C. 102(b) as being anticipated by Balmer U.S. Patent No. 5,562,540. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Balmer. And, it is indicated that if Applicant disagrees that the claims are product by process claims, then claims 1-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Balmer in view of the Metalforming article and Metal Spinning article cited by the Examiner. Additionally, claims 5-7 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention, on the grounds that the limitation "funnel-like" is unclear as it is unknown what Applicant considers like a funnel. Responsive to this latter rejection, Applicant amends claim 5 to remove the unclear recitation.

Responsive to the Examiner's assertion that the claims are considered to be product by process claims as they recite that the transition section is spin formed, Applicant responds that independent claim 8 was indeed originally drafted as a product by process claim, but that the other independent claims, namely, claims 1 and 5 were originally intended as product claims including a process limitation, as is permissible.

. . . it is well established that product claims may include process steps to wholly or partially define the claimed product . . . To the extent these process limitations distinguish the *product* over the prior art, they must be given the same consideration as traditional product characteristics.

In re Luck, 476 F.2d 650, 177 USPQ 523, 524 (CCPA 1973). To better define claims 1 and 5 as product claims, Applicant herein amends those claims to recite desired structural benefits imparted to the claimed transition section by spin forming, namely that the

transition section is seamless and hardened. In an analogous situation, the Court of Customs and Patent Appeals reasoned as follows.

It seems to us that the recitation of the particles as "interbonded one to another by interfusion between the surfaces of the pearl like particles" is as capable of being construed as a structural limitation as "intermixed," "round in place," "press fitted," "etched," and "welded," all of which at one time or another have been separately held capable of construction as structural, rather than process limitations.

In re Garnero, 162 USPQ 221, 223, 412 F.2d 276, 279 (CCPA 1969). Accordingly, Applicant respectfully asserts that the term "spin formed" in claims 1 and 5 is capable of being construed as a structural limitation, and thus those claims are properly construed as product claims.

Turning to amended independent claim 1, that claim is now more particularly directed to a transition section for a forward end of a threshing region of an agricultural combine, for receiving crop material feed into the threshing region, requiring

a unitary metal sheet spin formed so as to have a smooth, seamless and hardened frusto-conical shape inner surface portion extending convergently toward the forward end of the threshing region.

As set forth in the present specification, a transition section having a smooth, seamless and hardened frusto-conical shape inner surface portion provides attendant advantages compared to prior known transition section that are welded, including more uniform roundness and close tolerance to nominal diameter sizes and no asymmetrical stress resulting from non-uniform heating and weld seams that can result in deformation and distortion. The hardness of the frusto-conical inner surface portion resulting from being spin formed also eliminates the need for heat treating the transition section, which can also cause distortion.

The transition section of amended claim 1, being spin formed so as to have a smooth, seamless and hardened frusto-conical shape inner surface portion, and the attendant advantages thereof, are not disclosed, taught, and/or suggested by the combination of Balmer and the Metalforming and Metal Spinning articles cited by the Examiner. As noted by the Examiner, Balmer does not disclose the process by which the transition section of that invention is made, and although the Metal Spinning article teaches that spinning is an effective means of fabricating conical parts, and the Metalforming article teaches that structural components of agricultural combines can be formed by spinning, Applicant finds no suggestion that would lead one skilled in the art to contemplate fabricating an agricultural combine transition section by spin forming as claimed, nor of the claimed structural benefits imparted by being spin formed, namely being seamless and hardened.

Transition sections for the forward inlet end of a threshing region are old and well known. As is noted in the Background Art section of the present application, such known transition sections have traditionally been welded structures, which results in seams on the inner functional surface thereof. The known transition sections are heat treated to achieve hardness, which can cause distortion.

Spin forming metal into a wide variety of parts is well known, but spin forming a transition section, and the transition section being seamless and hardened as a result thereof, as claimed, is not evident from the cited prior art. By virtue of the long co-existence of frusto-conical transition sections and spin forming, and the lack of evidence of a prior known spin formed transition section, Applicant respectfully asserts that it is not an obvious combination to spin form a transition cone having a seamless and hardened frusto-conical inner surface portion, as set forth in amended claim 1.

For the foregoing reasons, amended claim 1 is believed to be patentably distinguishable over the cited prior art and allowable.

Claim 2 is cancelled.

Claims 3 and 4 depend from amended claim 1 and add still further limitations thereto. Accordingly, claims 3 and 4, in combination with amended base claim 1, are believed to be patentably distinguishable over the cited prior art and allowable.

Independent claim 5 has been amended to be directed to an agricultural combine requiring, in combination, an elongate generally cylindrical rotor casing defining a forward threshing region, the forward threshing region being provided with a **frusto-conical shape** transition section for endwise reception of crop material, and a rotor disposed within said casing in substantially coaxial relationship and substantially coextensive therewith for rotation therein, **the transition section being seamless and hardened by being spin formed from a unitary metal sheet.**

Again, for the reasons set forth with respect to amended claim 1 and incorporated herein by reference, Applicant respectfully asserts that providing a transition section which is seamless and hardened by being spin formed from a unitary metal sheet, is not disclosed, taught and/or suggested by the cited combination of references. Nowhere in Balmer and/or the Metalforming and Metal Spinning articles is it suggested to provide a transition section which is seamless and hardened by being spin formed from a unitary metal sheet as required in the claim. For the foregoing reasons, amended claim 5 is believed to be patentably distinguishable over the cited prior art and allowable.

Claim 6 is cancelled.

Amended claim 7 depends from amended claim 5 and adds still further distinguishing limitations thereto. Claim 7, in combination with base claim 5, is therefore believed to be patentably distinguishable over the cited prior art and allowable.

Amended independent claim 8 is directed to a transition section for a forward end of a threshing section of an agricultural combine, for receiving crop material feed into the threshing section, the transition section being formed by a process comprising a step of spin forming a single metal sheet so as to have a seamless and hardened frusto-conical shape inner surface portion. Again, for the reasons set forth above with respect to amended claims 1 and 5, Applicant respectfully asserts that the cited prior art does not provide any disclosure, teaching, suggestion or motivation for a transition section for a threshing section of an agricultural combine formed by spin forming a single metal sheet to have a seamless and hardened frusto-conical shape inner surface portion. Accordingly, amended independent claim 8 is believed to be patentably distinguishable over the cited prior art and allowable.

Claim 9 is cancelled.

With the amendments to the claims made herein, all of the now pending claims in the application are believed to contain limitations which patentably distinguish them over the cited prior art. None of the cited prior art references, either alone or in combination, disclose or even suggest the transition section having the claimed seamless and hardness properties, nor fabricating a transition section by a process including a step of spin forming a single metal sheet, so as to have a seamless and hardened frusto-conical shape inner surface portion. Therefore, favorable action and allowance of the claims is respectfully requested.

If the Examiner has any further requirements or suggestions for placing the present claims in condition for allowance, Applicant's undersigned attorney would appreciate a telephone call at the number listed below.

Respectfully submitted,

HAVERSTOCK, GARRETT & ROBERTS LLP

A handwritten signature in black ink, appearing to be 'S. Matthews', written over a horizontal line.

Stephen R. Matthews
Reg. No. 34,384
611 Olive Street, Suite 1610
St. Louis, Missouri 63101
(314) 241-4427

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